EMERGENCY OPERATIONS

1. During emergency operations and recovery assistance activities it is extremely important that safety and health requirements are implemented. Personnel often perform unusual, difficult, hazardous tasks while in a challenging environment, and these conditions increase the risk of accident. Additionally, resources are in short supply, and the loss of any resource to an accident indicates poor management. Safety and occupational healthof Corps of Engineers employees, contractors, and members of the public exposed to Corps activities will be a primary concern during all Corps emergency operations and recovery assistance. Safety and Occupational Health Offices shall provide the necessary input to their Emergency Management counterparts to ensure that planning for safety and health concerns (including risk and hazard analysis) is addressed prior to, during, and following disasters and disaster response.

2. Safety and occupational health program requirements shall be included in all Government and contract operations. Federal Acquisition Clause 52.236-13, Accident Prevention, shall be included in contracts and MOAs/MOUs for emergency operations and recovery assistance.

3. Initial response. A qualified safety and health professional shall be immediately alerted of the disaster and shall be included in the planning and execution of response and recovery efforts. This individual shall assess safety and health issues and assure precautions are taken prior to deployment of personnel (items to consider include sanitation, drinking water, power supply, living quarters, driving conditions, environmental conditions, and health issues).

4. Staffing. Safety and Occupational Health Offices in the Geographic District experiencing the disaster will be temporarily staffed with additional safety, industrial hygiene, and medical personnel as necessary to ensure a comprehensive safety and occupational health program is administered for all emergency operations and recovery assistance activities.

(1) Medical personnel shall provide medical assistance, assessments, and advice to Corps management and employees.

(2) Safety and health personnel shall manage safety and health aspects of emergency operations and recovery assistance activities, shall provide advice on safety and health issues, shall provide safety and health technical oversight for Corps employees and quality assurance for contractor employees.

5. Qualifications of Government employees. All Government employees reporting for emergency operations shall be medically fit to perform the extended hours and endure the additional stress related to this type of work: employees with known disqualifying physical, mental, and emotional problems shall be medically-qualified for this work. Districts providing employees to emergency response operations shall assure competent medical authorities review the employee's medical history using Standard Form 78 to identify the long hours and other stresses to which the employee may be exposed. Employees with diabetes, heart or lung problems, back conditions, or

hypertension should be discouraged from emergency operations and must be medically cleared for such work. Employees may be returned to their duty station if during the course of duty they experience health problems which may endanger their well being. Employees shall be notified that pharmacies and medical services may be limited at the emergency operations site.

6. Mobilization of USACE personnel. Prior to departing their duty station for emergency operations and recovery assistance activities, USACE personnel will be provided:

a. personnel protective equipment (e.g., head, eye, hearing, and foot protection, PFDs) appropriate for the hazards of the field activities which they will perform, and

b. immunizations appropriate for their field exposure (follow-up immunizations will be the responsibility of the Geographic District experiencing the disaster).

7. Safety orientation. Safety and health in-briefings and orientation shall be conducted as personnel arrive at the emergency area and prior to beginning work activities.

8. Communications.

a. Paging equipment, two-way radios, cellular phones, computers, and facsimile machines shall be used as needed to establish and enhance communications.

b. Safety and health programs, documents, signs, tags, instructions, etc., shall be communicated to employees and the public in a language which they understand.

9. Duty schedule.

a. For operations lasting longer than one week, USACE employees should not work in excess of 84 hr per week. Twelve hours per day, seven days a week, would normally be the duty hours an employee would be required to work during emergency operations. Supervisors shall monitor employees for signs of stress-related health problems and seek medical assistance as appropriate.

b. While working extended hours, employee travel time to and from work shall be minimized to allow for sufficient rest. If travel time to and from work exceeds 90 minutes one way, work hours shall be shortened by the travel time in excess of the 180 minute round trip travel time. Group transportation may be used to minimize individual driving time.

10. Machinery and Mechanized Equipment. ***>See Sections 16-18***

a. Inspection of equipment is critical as mobilization can be extremely short and equipment may not be up to Corps safety standards. Whenever feasible, contract specifications shall provide adequate mobilization time to allow equipment to be inspected and brought up to Corps standards. Equipment not meeting the requirements of this manual will not be used.

b. Trucks hauling debris on public highways shall have physical barriers (tail gates and covers) to preclude debris falling from the truck. Reverse alarms shall be provided; the need for roll-over warning devices shall be considered for long-bed end-dump trucks.

c. Written safe operating procedures (SOPs) shall be provided by contractors for each brush chipper prior to its operation. SOPs shall incorporate the manufacturer's recommendations for safe operation of the chipper as well as the use of exclusion zones and fire prevention efforts.

(1) Unprotected personnel shall not enter the exclusion zone while the chipper is in operation; protection of front-end loader or other equipment operators shall include heavy metal grating of sufficient strength to protect the operator from wood or metal pieces thrown from the chipper.

(2) Whenever chipper operations are shut down for any significant length of time (e.g., overnight or when the chipper will be left unattended), equipment walls, crevice drums, cutter heads and hammers, and drive mechanisms shall be cleared of all combustible materials by blowing, washing, and wetting down. Any material contaminated by leakage of hydraulic fluids, oils, or fuel shall be immediately removed: leakage shall be minimized through preventive maintenance. Piles of chipped wood are susceptible to spontaneous combustion: fire controls such as segregation, separation, and adequate water supply shall be used.

d. The number of workers in proximity to loaders, trucks, and other equipment shall be the minimum necessary to accomplish the job. In restricted areas or areas with reduced access or visibility, special precautions will be taken to ensure the safety of workers on the ground. Sequencing of work shall minimize equipment movement when personnel are in the work area: moving equipment and workers in the same immediate area is to be avoided. Whenever workers are in the area of operating machinery or vehicular traffic, they shall be provided reflectorized vests.

11. Traffic control.

a. Traffic control is extremely important on highways, in residential areas, and at construction sites. When traffic may pose a hazard to operations, public roads will be closed. Road closings shall be coordinated in writing with appropriate local agencies. Traffic controls and signage should comply with the *Manual of Uniform Traffic Control Devices*.

b. When a road cannot be closed, the following precautions shall be taken:

(1) "MEN WORKING AHEAD" or similar signs shall be placed along the roadway, 300 m (1000 ft) and 150 m (500 ft) before the work zone, on both sides of the work zone;

(2) sufficient flagpersons shall be used to control traffic within the work area;

(3) flagpersons shall be used and shall receive instruction in flagging operations before being placed in traffic;

(4) all flagpersons shall wear steel-toed shoes, international-orange reflective vests,

and hard hats;

(5) "STOP" and "GO" signs, not flags, will be used for traffic control; and

(6) flagpersons shall be able to communicate with each other and with the foreman.

12. Burn pits and debris piles.

a. The design of burn pits shall provide for efficient burning of materials.

b. Equipment operators feeding and emptying ash from burn pits shall be assured adequate breathing air: filtered air, supplied air, and/or air conditioning in a protected environment may be required. If engineering controls are not immediately available, open equipment may be used provided sampling for particulate, carbon monoxide, heat and specifics of the waste is conducted to assure workers are adequately protected through respiratory protection.

c. Adequate supplies of water or fire extinguishers shall be readily available and fire watches shall be used.

d. Burn pits shall not be located directly adjacent to debris piles (as a rule of thumb, minimum separation should be 15 m (50 ft)). The size of debris piles shall be limited to preclude their overturning.

13. Defensive driving. Personnel involved in emergency operations are at increased risk of motor vehicle accidents due to damaged roadways, debris/hazards in roadways, road closings, malfunctioning or missing traffic control devices, and driving under challenging environmental conditions. Safe driving programs shall be instituted and driving safety monitored. Personnel operating off-road vehicles shall be trained, prior to operation. in the use of such equipment.

14. Public safety. Public safety is important since the majority of work will be performed in the community. Emergency operations present potential hazards to children; problems in defining and keeping the public from work areas; traffic and road debris hazards; utility and structure hazards; and fire and other hazards. Requirements for work area delineation, traffic control devices, and the use of flagpersons shall be considered. Public service announcements shall be used as needed to promote safety of the public exposed to Corps activities. Barriers and fencing shall be considered in restricting the public from operation sites.

15. Health hazard recognition. Health hazards such as asbestos, lead paint, radiation, and hazardous chemicals shall be identified and controlled through the recommendations of a qualified industrial hygienist(s). Instrumentation, as required, shall be provided for the detection/measurement of health hazards.

16. Accident reporting.

a. All accidents shall be reported in accordance with AR 385-40 and applicable supplements.

b. Contractor motor vehicle accidents occurring on public highways shall be reported for trend analysis only and shall not be considered recordable.

c. Accident experience during emergency operations and recovery assistance activities will be reported by the Geographic District to Division and HQUSACE as part of the after action report. This information, as well a information regarding unsatisfactory safety and health performance and/or unresolved safety and health problems, will be periodically reported to Division.

17. Waivers of safety and health requirements. Waivers may be approved by the Geographic District Safety and Occupational Health Office. They must be forwarded to higher Commands with request for concurrence. Geographic District Safety and Occupational Health Offices will exercise prudent judgement in their recommendations for granting waivers with due consideration of existing disaster conditions.

APPENDIX C
GUIDELINES FOR CONTROL OF OCCUPATIONAL EXPOSURE TO CRYSTALLINE